1. Add <img> tag with src property in product-list.component.html file.

```html
<div class='panel panel-primary'>
    <div class='panel-heading'>
        {{pageTitle}}
    </div>
    <div class='panel-body'>
        <div class='row'>
            <div class='col-md-2'>Filter by:</div>
            <div class='col-md-4'>
                <input type='text'/>
            </div>
        </div>
        <div class='row'>
            <div class='col-md-6'>
                <h3>Filtered by:  </h3>
            </div>
        </div>
        <div class='table-responsive'>
            <table class='table' *ngIf='products &&
products.length'>
                <thead>
                    <tr>
                        <th>
                            <button class='btn btn-primary'>
                                Image
                            </button>
                        </th>
                        <th>Product</th>
                        <th>Code</th>
                        <th>Available</th>
                        <th>Price</th>
                        <th>5 Star Rating</th>
                    </tr>
                </thead>
                <tbody>
                    <tr *ngFor='#product of products'>
                        <td>
                            <img [src]='product.imageUrl'
                            [title]='product.productName'>
```
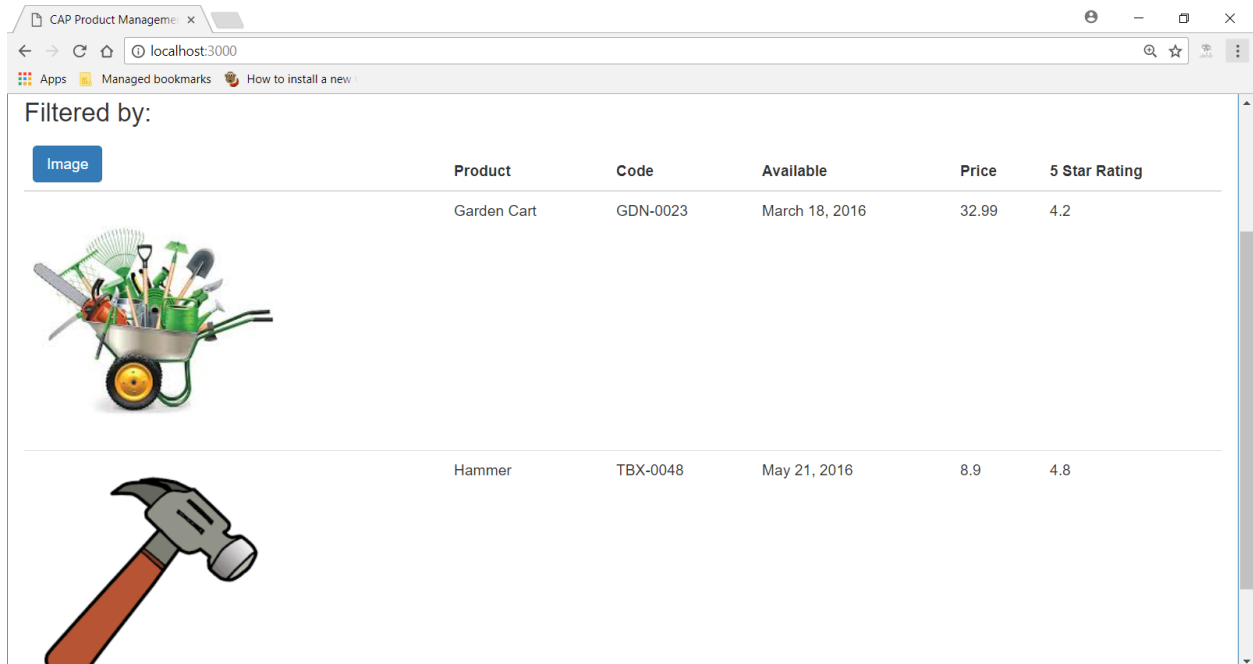
```html
                                </td>
                                <td>{{product.productName}}</td>
                                <td>{{product.productCode}}</td>
                                <td>{{product.releaseDate}}</td>
                                <td>{{product.price}}</td>
                                <td>{{product.starRating}}</td>
                    </tr>
                </tbody>
            </table>
        </div>
    </div>
</div>
```

2. Now if your check your browser you can see below output.

3. Now we are going to change image width and height. Add imageWidth and imageMargin property in product-list.component.ts file

```typescript
import { Component } from 'angular2/core';

@Component({
    selector: 'pm-products',
    templateUrl: 'app/products/product-list.component.html'
```

```
})
export class ProductListComponent {
    pageTitle: string = 'Product List';
    imageWidth: number = 50;
    imageMargin: number = 2;
    products: any[] = [
        {
            "productId": 2,
            "productName": "Garden Cart",
            "productCode": "GDN-0023",
            "releaseDate": "March 18, 2016",
            "description": "15 gallon capacity rolling garden cart",
            "price": 32.99,
            "starRating": 4.2,
            "imageUrl": "https://encrypted-
tbn0.gstatic.com/images?q=tbn:ANd9GcRZhmstt7Kkdk5kyMv9mxJyh9sPUBvY9p
oTrxcl-SCAUa3WmUVZQA"
        },
        {
            "productId": 5,
            "productName": "Hammer",
            "productCode": "TBX-0048",
            "releaseDate": "May 21, 2016",
            "description": "Curved claw steel hammer",
            "price": 8.9,
            "starRating": 4.8,
            "imageUrl": "https://encrypted-
tbn0.gstatic.com/images?q=tbn:ANd9GcSlXJdOiLq-d9v2-
UDfTlQFF3IuhdNMoE1ok1pAgwqubZaZqQJ9"
        }
    ];

}
```

4. Use the properties in product-list.component.html file

```
<div class='panel panel-primary'>
    <div class='panel-heading'>
        {{pageTitle}}
    </div>
    <div class='panel-body'>
        <div class='row'>
            <div class='col-md-2'>Filter by:</div>
            <div class='col-md-4'>
                <input type='text'/>
```
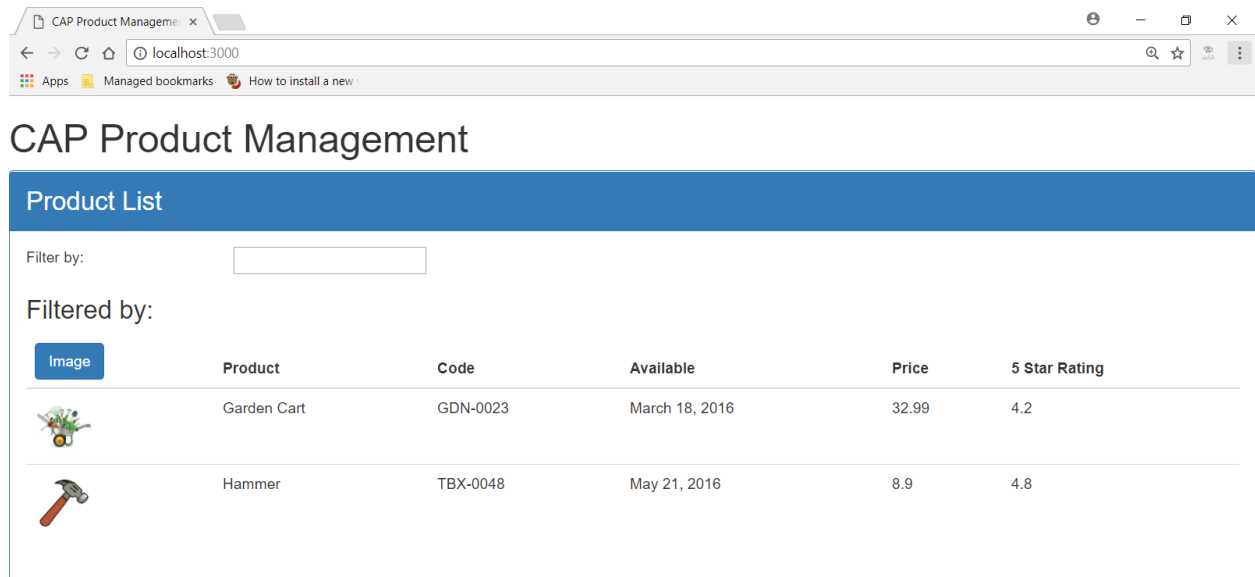
```
            </div>
        </div>
        <div class='row'>
            <div class='col-md-6'>
                <h3>Filtered by:  </h3>
            </div>
        </div>
        <div class='table-responsive'>
            <table class='table' *ngIf='products && products.length'>
                <thead>
                    <tr>
                        <th>
                            <button class='btn btn-primary'>
                                Image
                            </button>
                        </th>
                        <th>Product</th>
                        <th>Code</th>
                        <th>Available</th>
                        <th>Price</th>
                        <th>5 Star Rating</th>
                    </tr>
                </thead>
                <tbody>
                    <tr *ngFor='#product of products'>
                        <td>
                            <img [src]='product.imageUrl'
                            [title]='product.productName'
                            [style.width.px]='imageWidth'
                            [style.margin.px]='imageMargin'>
                        </td>
                        <td>{{product.productName}}</td>
                        <td>{{product.productCode}}</td>
                        <td>{{product.releaseDate}}</td>
                        <td>{{product.price}}</td>
                        <td>{{product.starRating}}</td>
                    </tr>
                </tbody>
            </table>
        </div>
    </div>
</div>
```

5. Now if you check the browser you can see below output.

6. Add Image button click event as mentioned below. In product-list.component.ts file do the below changes.

```typescript
import { Component } from 'angular2/core';

@Component({
    selector: 'pm-products',
    templateUrl: 'app/products/product-list.component.html'

})
export class ProductListComponent {
    pageTitle: string = 'Product List';
    imageWidth: number = 50;
    imageMargin: number = 2;
    showImage: boolean = false;
    products: any[] = [
        {
            "productId": 2,
            "productName": "Garden Cart",
            "productCode": "GDN-0023",
            "releaseDate": "March 18, 2016",
            "description": "15 gallon capacity rolling garden cart",
```

```
                    "price": 32.99,
                    "starRating": 4.2,
                    "imageUrl": "https://encrypted-
        tbn0.gstatic.com/images?q=tbn:ANd9GcRZhmstt7Kkdk5kyMv9mxJyh9sPUBvY9p
        oTrxcl-SCAUa3WmUVZQA"
                },
                {
                    "productId": 5,
                    "productName": "Hammer",
                    "productCode": "TBX-0048",
                    "releaseDate": "May 21, 2016",
                    "description": "Curved claw steel hammer",
                    "price": 8.9,
                    "starRating": 4.8,
                    "imageUrl": "https://encrypted-
        tbn0.gstatic.com/images?q=tbn:ANd9GcSlXJdOiLq-d9v2-
        UDfTlQFF3IuhdNMoE1ok1pAgwqubZaZqQJ9"
                }
        ];

        toggleImage(): void{
            this.showImage = !this.showImage;
        }

}
```

7. In product-list.compoenent.html file add button click event as highlighted below.

```
<div class='panel panel-primary'>
    <div class='panel-heading'>
        {{pageTitle}}
    </div>
    <div class='panel-body'>
        <div class='row'>
            <div class='col-md-2'>Filter by:</div>
            <div class='col-md-4'>
                <input type='text'/>
            </div>
        </div>
        <div class='row'>
            <div class='col-md-6'>
                <h3>Filtered by:  </h3>
            </div>
        </div>
```

```html
        <div class='table-responsive'>
            <table class='table' *ngIf='products && products.length'>
                <thead>
                    <tr>
                        <th>
                            <button class='btn btn-primary'
                             (click) = 'toggleImage()'>
                                {{showImage ? 'Hide' : 'Show'}} Image
                            </button>
                        </th>
                        <th>Product</th>
                        <th>Code</th>
                        <th>Available</th>
                        <th>Price</th>
                        <th>5 Star Rating</th>
                    </tr>
                </thead>
                <tbody>
                    <tr *ngFor='#product of products'>
                        <td>
                            <img *ngIf='showImage'
                            [src]='product.imageUrl'
                            [title]='product.productName'
                            [style.width.px]='imageWidth'
                            [style.margin.px]='imageMargin'>
                        </td>
                        <td>{{product.productName}}</td>
                        <td>{{product.productCode}}</td>
                        <td>{{product.releaseDate}}</td>
                        <td>{{product.price}}</td>
                        <td>{{product.starRating}}</td>
                    </tr>
                </tbody>
            </table>
        </div>
    </div>
</div>
```
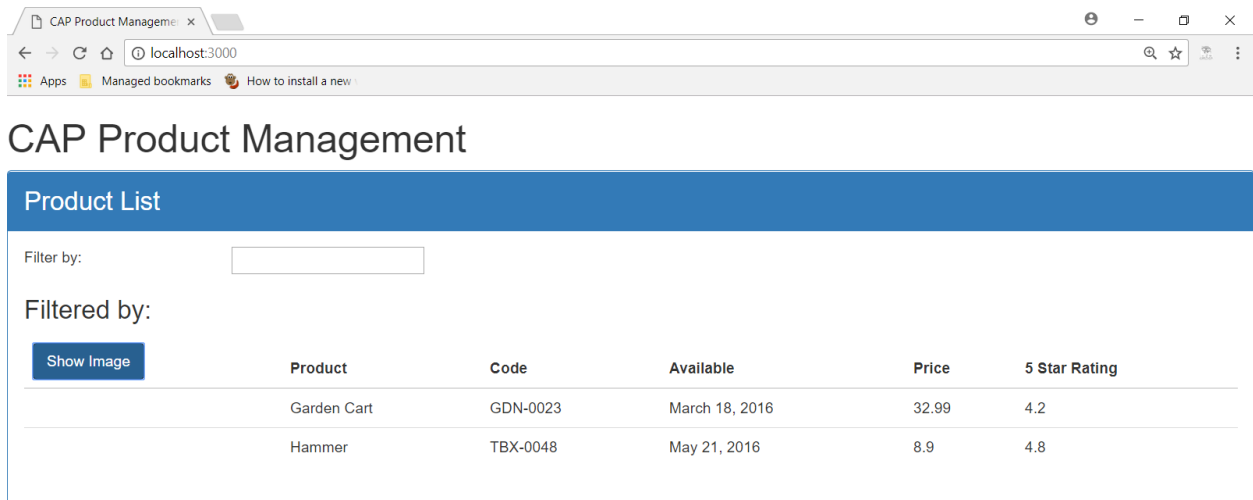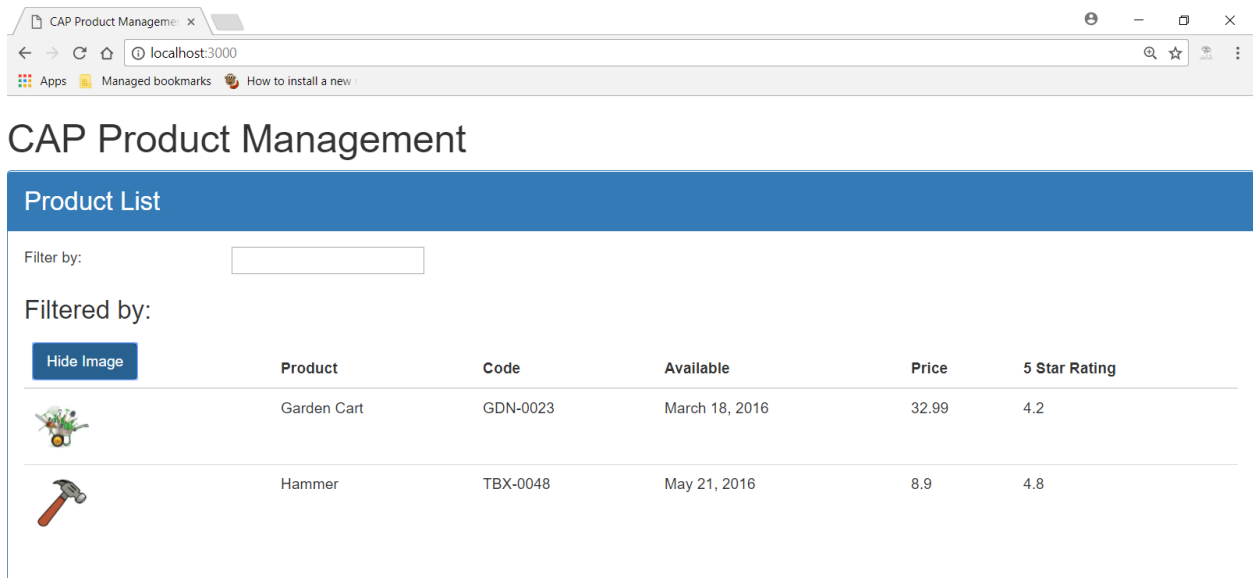
8. Now ShowImage and HideImage button works as expected.

9. product-list.component.ts file as listFilter property.

```
import { Component } from 'angular2/core';

@Component({
    selector: 'pm-products',
```

```typescript
    templateUrl: 'app/products/product-list.component.html'

})
export class ProductListComponent {
    pageTitle: string = 'Product List';
    imageWidth: number = 50;
    imageMargin: number = 2;
    showImage: boolean = false;
    listFilter: string = 'cart';
    products: any[] = [
        {
            "productId": 2,
            "productName": "Garden Cart",
            "productCode": "GDN-0023",
            "releaseDate": "March 18, 2016",
            "description": "15 gallon capacity rolling garden cart",
            "price": 32.99,
            "starRating": 4.2,
            "imageUrl": "https://encrypted-
tbn0.gstatic.com/images?q=tbn:ANd9GcRZhmstt7Kkdk5kyMv9mxJyh9sPUBvY9poTrxcl-
SCAUa3WmUVZQA"
        },
        {
            "productId": 5,
            "productName": "Hammer",
            "productCode": "TBX-0048",
            "releaseDate": "May 21, 2016",
            "description": "Curved claw steel hammer",
            "price": 8.9,
            "starRating": 4.8,
            "imageUrl": "https://encrypted-
tbn0.gstatic.com/images?q=tbn:ANd9GcSlXJdOiLq-d9v2-
UDfTlQFF3IuhdNMoE1ok1pAgwqubZaZqQJ9"
        }
    ];

    toggleImage(): void{
        this.showImage = !this.showImage;
    }

}
```

    10. include this listFilter property in product-list.component.html file.

```html
<div class='panel panel-primary'>
    <div class='panel-heading'>
        {{pageTitle}}
    </div>
    <div class='panel-body'>
        <div class='row'>
            <div class='col-md-2'>Filter by:</div>
            <div class='col-md-4'>
                <input type='text' [(ngModel)]='listFilter'/>
            </div>
        </div>
        <div class='row'>
            <div class='col-md-6'>
                <h3>Filtered by: {{listFilter}} </h3>
            </div>
        </div>
        <div class='table-responsive'>
            <table class='table' *ngIf='products && products.length'>
                <thead>
                    <tr>
                        <th>
                            <button class='btn btn-primary'
                             (click) = 'toggleImage()'>
                                {{showImage ? 'Hide' : 'Show'}} Image
                            </button>
                        </th>
                        <th>Product</th>
                        <th>Code</th>
                        <th>Available</th>
                        <th>Price</th>
                        <th>5 Star Rating</th>
                    </tr>
                </thead>
                <tbody>
                    <tr *ngFor='#product of products'>
                        <td>
                            <img *ngIf='showImage'
                            [src]='product.imageUrl'
                            [title]='product.productName'
                            [style.width.px]='imageWidth'
                            [style.margin.px]='imageMargin'>
                        </td>
                        <td>{{product.productName}}</td>
                        <td>{{product.productCode}}</td>
                        <td>{{product.releaseDate}}</td>
```

```
                    <td>{{product.price}}</td>
                    <td>{{product.starRating}}</td>
                </tr>
            </tbody>
        </table>
    </div>
  </div>
</div>
```

11. you can see below output with two way binding

CAP Product Management

Product List

Filter by: cart

Filtered by: cart

Show Image

	Product	Code	Available	Price	5 Star Rating
	Garden Cart	gdn-0023	March 18, 2016	$32.99	4.2
	Hammer	tbx-0048	May 21, 2016	$8.90	4.8

Transforming Data with pipes:

12. Add lowercase and currency pipes in your product-list.component.html file.

```
<div class='panel panel-primary'>
    <div class='panel-heading'>
        {{pageTitle}}
    </div>
    <div class='panel-body'>
        <div class='row'>
            <div class='col-md-2'>Filter by:</div>
            <div class='col-md-4'>
                <input type='text' [(ngModel)]='listFilter'/>
            </div>
```

```html
            </div>
            <div class='row'>
                <div class='col-md-6'>
                    <h3>Filtered by: {{listFilter}} </h3>
                </div>
            </div>
            <div class='table-responsive'>
                <table class='table' *ngIf='products && products.length'>
                    <thead>
                        <tr>
                            <th>
                                <button class='btn btn-primary'
                                 (click) = 'toggleImage()'>
                                    {{showImage ? 'Hide' : 'Show'}} Image
                                </button>
                            </th>
                            <th>Product</th>
                            <th>Code</th>
                            <th>Available</th>
                            <th>Price</th>
                            <th>5 Star Rating</th>
                        </tr>
                    </thead>
                    <tbody>
                        <tr *ngFor='#product of products'>
                            <td>
                                <img *ngIf='showImage'
                                [src]='product.imageUrl'
                                [title]='product.productName'
                                [style.width.px]='imageWidth'
                                [style.margin.px]='imageMargin'>
                            </td>
                            <td>{{product.productName}}</td>
                            <td>{{product.productCode | lowercase }}</td>
                            <td>{{product.releaseDate}}</td>
                            <td>{{product.price | currency:'USD':true:'1.2-2'}}</td>
                            <td>{{product.starRating}}</td>
                        </tr>
                    </tbody>
                </table>
            </div>
        </div>
</div>
```
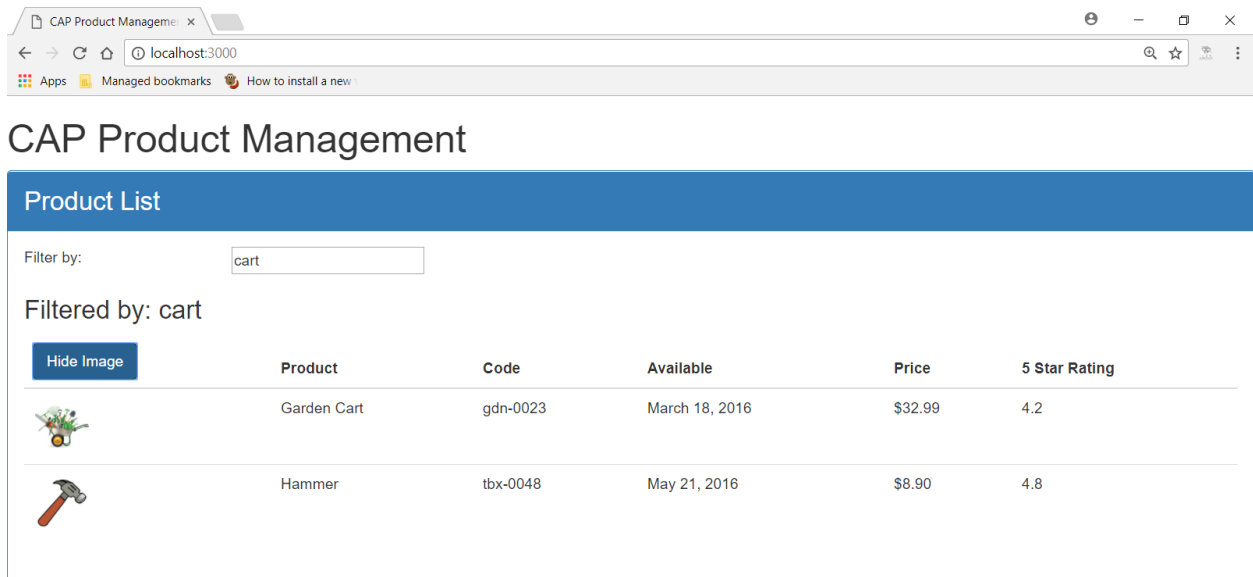
CAP Product Management

Defining Interface:

1. Add product.ts file under products folder, this file has interface implementation.

    product.ts

```typescript
export interface IProduct{
    productId: number;
    productName: string;
    productCode: string;
    releaseDate: string;
    price: number;
    description: string;
    starRating: number;
    imageUrl: string;
}
```

2. Once your interface added, you can use the interface in product-list.component.ts file in place of any[] array type.

```typescript
import { Component } from 'angular2/core';
import { IProduct } from './product';

@Component({
    selector: 'pm-products',
    templateUrl: 'app/products/product-list.component.html'
```

```typescript
})
export class ProductListComponent {
    pageTitle: string = 'Product List';
    imageWidth: number = 50;
    imageMargin: number = 2;
    showImage: boolean = false;
    listFilter: string = 'cart';
    products: IProduct[] = [
        {
            "productId": 2,
            "productName": "Garden Cart",
            "productCode": "GDN-0023",
            "releaseDate": "March 18, 2016",
            "description": "15 gallon capacity rolling garden
cart",
            "price": 32.99,
            "starRating": 4.2,
            "imageUrl": "https://encrypted-
tbn0.gstatic.com/images?q=tbn:ANd9GcRZhmstt7Kkdk5kyMv9mxJyh9sP
UBvY9poTrxcl-SCAUa3WmUVZQA"
        },
        {
            "productId": 5,
            "productName": "Hammer",
            "productCode": "TBX-0048",
            "releaseDate": "May 21, 2016",
            "description": "Curved claw steel hammer",
            "price": 8.9,
            "starRating": 4.8,
            "imageUrl": "https://encrypted-
tbn0.gstatic.com/images?q=tbn:ANd9GcSlXJdOiLq-d9v2-
UDfTlQFF3IuhdNMoE1ok1pAgwqubZaZqQJ9"
        }
    ];

    toggleImage(): void{
        this.showImage = !this.showImage;
    }

}
```
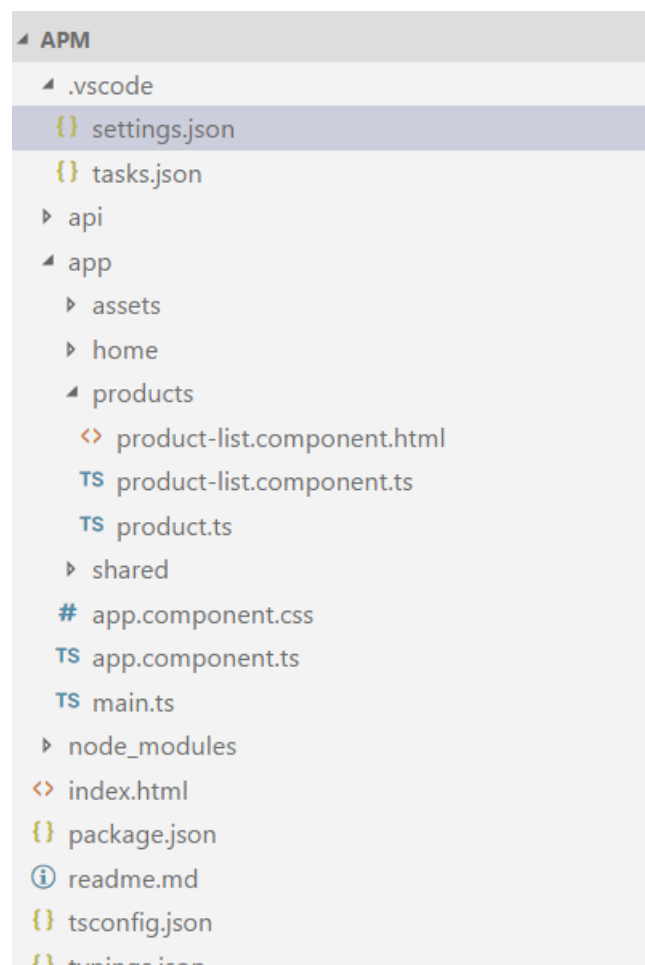3. Check your browser window it works as it is.

Note:

You can hide .js and .map file by using File → preferences → Settings → select
WORKSPACE settings. And add the below lines.

```
    // Place your settings in this file to overwrite default and user settings.

  {
      "files.exclude": {
          "**/.git": true,
          "**/.DS_Store": true,
          "**/*.js": true,
          "**/*.map": true
      },
      "files.autoSave": "afterDelay"
  }
```

Now if you check the list, it will not show .js and .map files in your editor.

4. Create new file called **product-list.component.css** under products folder which includes below content.

product-list.component.css

```css
thead{
    color: #337AB7;
}
```

5. Add this external style sheet into your product-list.component.ts file.

```typescript
import { Component } from 'angular2/core';
import { IProduct } from './product';

@Component({
    selector: 'pm-products',
    templateUrl: 'app/products/product-list.component.html',
    styleUrls: ['app/products/product-list.component.css']

})
export class ProductListComponent {
    pageTitle: string = 'Product List';
    imageWidth: number = 50;
    imageMargin: number = 2;
    showImage: boolean = false;
    listFilter: string = 'cart';
    products: IProduct[] = [
        {
            "productId": 2,
            "productName": "Garden Cart",
            "productCode": "GDN-0023",
            "releaseDate": "March 18, 2016",
            "description": "15 gallon capacity rolling garden cart",
            "price": 32.99,
            "starRating": 4.2,
            "imageUrl": "https://encrypted-
tbn0.gstatic.com/images?q=tbn:ANd9GcRZhmstt7Kkdk5kyMv9mxJyh9sPUBvY9poTrxcl-
SCAUa3WmUVZQA"
        },
        {
            "productId": 5,
            "productName": "Hammer",
```
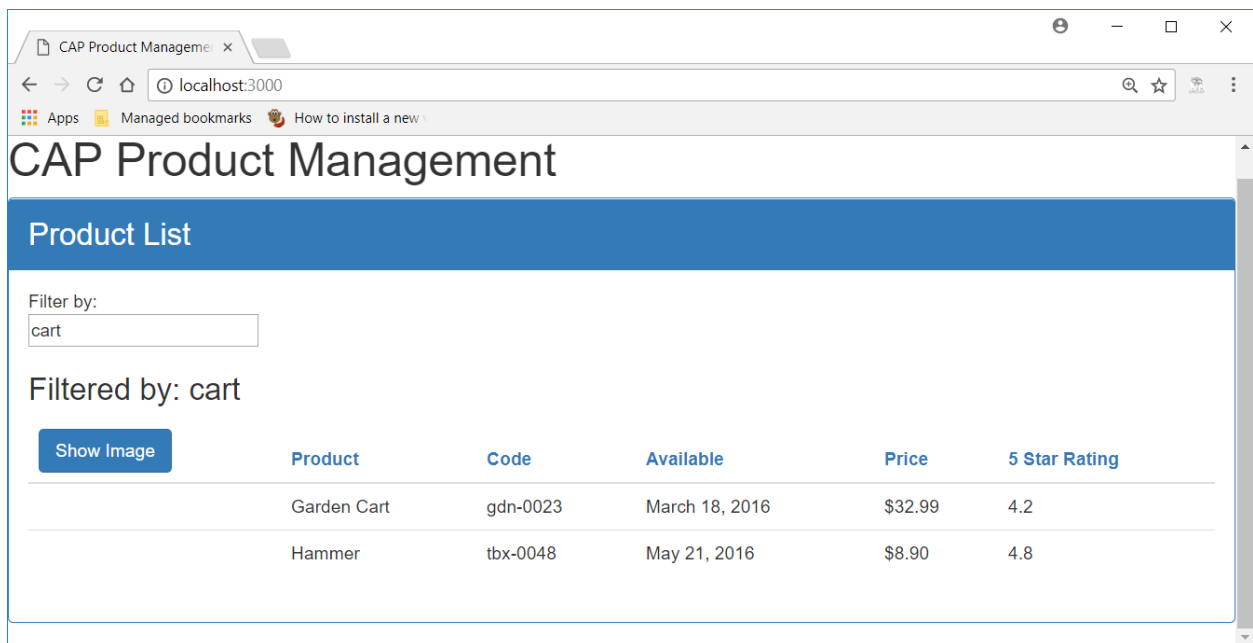
```
            "productCode": "TBX-0048",
            "releaseDate": "May 21, 2016",
            "description": "Curved claw steel hammer",
            "price": 8.9,
            "starRating": 4.8,
            "imageUrl": "https://encrypted-
tbn0.gstatic.com/images?q=tbn:ANd9GcSlXJdOiLq-d9v2-
UDfTlQFF3IuhdNMoE1ok1pAgwqubZaZqQJ9"
        }
    ];

    toggleImage(): void{
        this.showImage = !this.showImage;
    }

}
```

6. See your output in the browser, table header color will be changed to blue.

7. Add OnInit one of the life cycle hook interface in your product-list.compoent.ts
   file.

```
import { Component, OnInit } from 'angular2/core';
import { IProduct } from './product';
```

```typescript
@Component({
    selector: 'pm-products',
    templateUrl: 'app/products/product-list.component.html',
    styleUrls: ['app/products/product-list.component.css']

})
export class ProductListComponent implements OnInit{
    pageTitle: string = 'Product List';
    imageWidth: number = 50;
    imageMargin: number = 2;
    showImage: boolean = false;
    listFilter: string = 'cart';
    products: IProduct[] = [
        {
            "productId": 2,
            "productName": "Garden Cart",
            "productCode": "GDN-0023",
            "releaseDate": "March 18, 2016",
            "description": "15 gallon capacity rolling garden cart",
            "price": 32.99,
            "starRating": 4.2,
            "imageUrl": "https://encrypted-
tbn0.gstatic.com/images?q=tbn:ANd9GcRZhmstt7Kkdk5kyMv9mxJyh9sPUBvY9poTrxcl-
SCAUa3WmUVZQA"
        },
        {
            "productId": 5,
            "productName": "Hammer",
            "productCode": "TBX-0048",
            "releaseDate": "May 21, 2016",
            "description": "Curved claw steel hammer",
            "price": 8.9,
            "starRating": 4.8,
            "imageUrl": "https://encrypted-
tbn0.gstatic.com/images?q=tbn:ANd9GcSlXJdOiLq-d9v2-
UDfTlQFF3IuhdNMoE1ok1pAgwqubZaZqQJ9"
        }
    ];

    toggleImage(): void{
        this.showImage = !this.showImage;
    }

    ngOnInit(): void{
```

```
        console.log('Init Invoked!')
    }


}
```

You can see the log in the devloper debugger tool pane as mentioned below.